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*The Soldier
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THE SOLDIER AND THE SURGEON.

BY
George

SURGEON LT.-COL. G. STERLING RYERSON, M.D.

Esquire of the Order of St. John of Jerusalem in England;
Deputy Surgeon-General, Canadian Militia; General Secretary to St. John
Ambulance Association in Canada; Representative in Canada of the
National Society for aid to the Sick and Wounded in War (British
Red Cross Society); General Secretary of the Association
of Medical Officers of the Canadian Militia.

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THE SOLDIER AND THE SURGEON.*

BY

SURGEON LT.-COL. G. STERLING RYERSON, D.S.G.

It was with pleasure, not unmixed with fear and trepidation—a fear born of knowledge of my own unworthiness and of the great merits of the lecturers who have preceded me, and, perhaps, of the keen and well-informed critics that I see before me—that I accepted the flattering offer of the committee to address you to-night on the subject of the medical service of the Imperial army and of the Canadian militia.

It may not be out of place to say that my mind has long been directed to military medical affairs, and that I ascribe this fact as being due in no small degree to the influence of a great painting which adorned, and still adorns, the walls of the auditorium of the Faculty of Medicine of Paris. The picture represents a sixteenth century battle-scene. In the distance are groups of men engaged in combat. In the foreground is an operating table, on which is strapped and held by the blood-stained assistants, a powerful man who has just had his leg lopped off by the old circular method. To the right of the picture is a brazier filled with glowing charcoal, in which repose several cautery irons, one of which is being handed to the king, who offers it to the surgeon, Paré. Beneath the picture in letters of gold runs the legend, "The King aids their efforts and rewards their zeal." Gazing upon this painting day after day as I followed the lectures, the idea came to me that I would like to become an army doctor. It was not my fate to enter the service of the Imperial army, but on the completion of my education abroad I made what haste I could to enter the militia medical service of my native country, on my return to Canada.

Military surgery has kept pace with the scientific advance of the century, and the field surgery of to-day differs as greatly from the septic scenes of horror of the sixteenth century as the telegraph does from pony express.

* A paper read before Canadian Military Institute, March 6th, 1899.

During the bloody civil war in the time of King Charles I. some attempt was made to organize the English medical service; for we read of regimental mates, hospital mates, regimental surgeon, surgeon to a general hospital and surgeon-general, as being recognized ranks in the army of that unhappy monarch. But it was during the wars of Marlborough that the British army medical service took form and increased efficiency. Previous to that time soldiers who were so seriously maimed as to be rendered ineffective, were simply discharged, the State believing that it was cheaper to hire whole men than to restore the sick and the maimed to health. It declined to be held responsible for those who suffered in its service, and let them shift for themselves as best they could. The morality of the proceeding did not seem to enter into the question. There was no clear distinction between the land and sea service, though there was between physicians and surgeons, and it was no uncommon thing to hold double commissions, combatant and non-combatant, the holders serving in either capacity as suited their interests or convenience. The services were separated in 1796. In Marlborough's time it was considered effeminate to be sick, and there are lusty yokels who hold that view still, but the bloody and exhaustive battles of the time, and especially in the low countries, where malaria stalked its prey unchecked, brought the strongest to a sense of their fallibility.

As in all stressful periods of British history there arises the man for the emergency, so at this trying period, Marlborough's principal medical officer, Sir John Pringle, proved himself an able administrator, a man of courage, of indomitable energy, with the service of his country and the honor of his profession ever uppermost in his mind. Under circumstances of the greatest difficulty and under every disadvantage, he rose to the needs of the occasion and organized a system of regimental, field, and general hospitals. The first general hospital was opened at Ath, May 11th, 1745, and, after the battle of Fontenoy, cared for 600 wounded. It was not, however, until many years later, during the Peninsular war, that surgeons were first assigned to regiments in the field. Sir J. McGrigor, the P. M. O. under Wellington, a man of energy and ability, devised the regimental system of medical officers which has held sway until recently in the Imperial army, and which holds good to-day in Canada. That the medical officers were active and efficient will be admitted when it is stated that in ten months from the siege of Burgos up to the battle of Vittoria, the total number of sick and wounded admitted to hospital was 95,348; yet on the eve of the battle there were only 5,000 sick in hospital, the vast majority of the 95,000 having returned to duty.

In 1812 a corps called the Royal Waggon Corps was organ-

ized, special waggons with springs being constructed for the conveyance of sick and wounded. This corps was disbanded in 1833.

In 1854, on the outbreak of the Crimean war, the Hospital Conveyance Corps was called into existence. That it was not a success was chiefly owing to the total want of special training of the men for their duties, and because the medical officers had no authority over the men.

It was followed by the Land Transport Corps. This corps also came to grief because there was no cohesion or organization which would work, and because it fulfilled but one function required of it, viz., the conveyance of the wounded. The important duties of attending to wounded on the field and in hospital were not provided for. In consequence of all these failures the first Medical Staff Corps was organized in 1855. It consisted of nine companies of seventy-eight men each, "to be employed in any way that may be required in the performance of hospital duties." There were scarcely any military features in this corps, and it also collapsed in about three months. The chief cause of failure was the doubtful and anomalous relations of the medical officers to the combatant authorities. The medical officer had no military authority, hence no power of enforcing discipline.

On September 15th of the same year, this corps gave place to the Army Hospital Corps, which possessed full military organization. The ranks were chiefly recruited by transfer from the combatant ranks of men of good character. Each man spent three months on probation in a military hospital before being finally enrolled in the corps. It was under the command of captains and lieutenants, of orderlies and quartermasters.

In 1858 a Royal Commission, under the presidency of Right Hon. Sidney Herbert, brought in a report which remodelled the department and established the army medical school.

In 1873 Mr. Cardwell, Secretary of State for War, the author of so many army reforms, abolished the regimental system by Royal Warrant and placed all medical officers on a staff. Regimental hospitals disappeared under this warrant, and became part of station or general hospitals, as the case might be.

In 1877 medical officers were given authority over the A. H. Corps, non-commissioned officers and men, as well as patients in hospital and soldiers attached for duty.

In 1883 Lord Morley's committee made recommendations, which were adopted, the principal ones being the vesting of the control of hospitals in the medical officer in charge, and the assimilation of the A.H.C. and A.M. Department, both to wear the same uniform (blue with black facings).

In 1889 a committee, under Lord Camperdown, was appointed to make inquiries into the pay, status, and condition of the medical service. One of the committee's recommendations was the adoption of military titles, prefixed by the word "surgeon," as, for instance, "surgeon-lieutenant-colonel," etc. These titles carried precedence and other advantages, but a limited executive power, hence they were found unsatisfactory.

By Royal Warrant of July 1st, 1898, the medical staff corps became the Royal Army Medical Corps, and medical officers were given full military titles. The duty of supplying transport to the R.A.M.C. devolves upon the Army Service Corps, the officer commanding the detachment taking his orders from the senior officer of the R.A.M.C.

Regiments which have served in the great battles of history are justly proud of the deeds of their predecessors, and emblazon the names of the regiment's battles in golden letters on their colors, while *esprit de corps* runs high. Should we not also be proud of the medical corps of the Imperial army, which has served with distinction and fidelity in *every* battle since Marlborough's time? Soldiers have their heroes. We also have ours. The names of Ambroise Paré, Peter Lowe, Richard Wiseman, Larrey and Longmore are emblazoned on the annals of military medicine. Nor have medical officers been lacking in military courage. "Have you ever heard of Surgeon Thomson, who, during the Crimean war, when the army marched off after the terrible battle of the Alma, volunteered with his servant to remain behind on the open field with 500 wounded Russians, and passed three awful nights, these two Englishmen alone, among foreign foes, none able to raise a hand to help himself? Have you heard of Assistant Surgeon Wolseley, of the 20th regiment, who, at the battle of Inkerman, had quietly established his dressing station in that awful place, the Sandbag Battery? When the 150 men were forced to desert it, they fell back and found in their path a Russian battalion. There was not a combatant officer left, so the assistant surgeon took command. He had not even a sword, but laying hold of a musket with a fixed bayonet, he gave the word of command, 'Fix bayonets. Charge.' The soldiers answered with a British cheer and sprang forward to the attack. The next instant they were breaking their way through the Russians. Only one-half got through alive, and among them our hero. Have you ever heard of Surgeon Landon, who was shot through the spine while attending to the wounded on Majuba Hill? His legs were paralyzed, but he caused himself to be propped up, and continued his merciful work until his strength ebbed away. You may recall the more recent case of Surgeon-Captain Whitchurch, who gained the Victoria Cross at

the siege of Chitral for the most determined courage in saving the life of Major Baird.

"There died a short time ago a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses of the street, commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword, and calling on a few men near him to follow, succeeded, under a very heavy fire, in dislodging the rebels from their position. Surgeon Reade's party consisted of ten in all, of whom two were killed and six wounded."* Surgeon Reade was a Canadian, and one of the two sons of a colonel in the militia, both of whom greatly distinguished themselves. I might add that of 118 wearers of the Victoria Cross fourteen are surgeons, nearly 12 per cent. of the whole number, or 9½ per cent. of all the officers of the army, a record of which we may be justly proud.

Knowing the brilliant and meritorious services of army medical officers it gives one a shock to learn that it was only after many failures, many struggles and much heart-burning, after a prolonged period of unjust treatment, which, to the colonial mind is incomprehensible, that the medical service of the Imperial army has reached the present point of high efficiency and excellent organization—a state of things largely due to the tenacity with which the leaders in the struggle have stuck to the text, and the cordial and active support which they have received from the medical profession throughout the empire, chiefly through the medium of the British Medical Association. We, in Canada, have all the advantage which comes from the experience of others without the trials and anxieties which attend the gaining of experience, and I am happy to think that nothing but the best of feeling has always existed between the different branches of the service. No better proof of this can be adduced than that we have as the responsible Minister of Militia and Defence, an able, open-minded and progressive medical officer, Surgeon Lieut.-Colonel the Hon. F. W. Borden, M.P., who has the very great advantage of the assistance of one of the ablest and most tactful general officers by whom the Canadian militia has ever been commanded. Under the united guidance of the SOLDIER and the SURGEON, I look forward with confidence to the future.

Having thus sketched the historical and evolutionary side of my subject, let me direct your attention to the practical work of the medical service in so far as organized relief and transport

* Banks. "The Surgeon of Old in War."

of the wounded are concerned. In order to understand the way in which a wounded soldier is brought from the fighting-line to the base hospital, it is necessary to refer to the composition of a British army corps in the field. Such an army corps would consist of about 40,000 men, about the strength of our militia, under the command of Lieutenant-General. It would be composed of 3 divisions of infantry, and each infantry division would contain about 10,000 men in 2 brigades. The medical detail for each division would be, besides the regimental bearers, 2 bearer companies, 3 field hospitals of 100 beds each, and one divisional field hospital in reserve. The corps troops have also one field hospital. The cavalry division would number about 6,500 men, and would have attached to it 2 bearer companies and 3 field hospitals of 100 beds each. The whole medical detail for the division, exclusive of regimental bearers, would be 8 bearer companies, 10 field hospitals, 2 station hospitals and 2 general hospitals, the latter being on the line of communication at any distance up to 100 miles from the front. The supreme command of the medical arrangements is vested in a surgeon-general, who is the P. M. O. of the force. In many instances he is assisted by Deputy P. M. O., who is a colonel. The duties of the P. M. O. are to advise the G. O. C. on all matters concerning the health of the troops. This would include such important matters as food and clothing, and any special precautions rendered necessary by the climate, also the oversight of his department. The importance of his functions can hardly be overestimated, for his business is to direct the measures for *keeping the men in health*, which is the main business of the army surgeon, so that at the critical time they be available.*

The last Ashanti campaign was, you will remember, a "doctors' war." Nor would Khartoum have fallen, nor would Omdurman have been successfully fought but for the skilful foresight of the men who kept the troops in health in the trying climate of Upper Egypt. Thanks to the excellent medical

* MORTUARY STATISTICS OF THE SPANISH-AMERICAN WAR.

"According to the official report of the Adjutant-General of the army, the entire number of deaths in the service since the 1st May last is divided as follows:

Killed	329
Died of wounds	125
Died of disease	5,277

In other words, for every one man who died as the result of battle, twelve perished as the result of bad food, carelessness or mismanagement of the War Department."—*Evening Bulletin*, Philadelphia, March 11th, 1899.

The losses on the Union side during the Civil War were:

Killed in action	44,238
Died of wounds	49,731
Died of disease	93,969
Cases of disease reported during five years of war.....	186,216

arrangements, a tour of service in India is no longer a thing to be dreaded. The P. M. O. has also to arrange for the transport of the sick and wounded, no small matter in a difficult country, and to fix the sites of the field, stationary and general hospitals. Each division has also its P. M. O.

The *first line of assistance* to the wounded consists of the M. O. attached to the unit and his regimental medical staff, which is composed of one corporal, whose duties are to take charge of the panniers, which are usually carried on a mule; one orderly who carries the field companion and the surgical haversac. Four men per squadron, or two men per company, constitute the stretcher section. The medical equipment of the unit consists of one surgical haversac, one field companion, one water-bottle and a pair of panniers. The duties of the stretcher-bearers, when an action is pending, are, after placing their rifles in the regimental transport, to take the stretchers, and when occasion arises to render first aid, and carry the wounded man and his kit to the collecting station, beyond which they do not go, but at once rejoin their companies. Lord Wolseley says that when a man falls wounded there are ten men always ready to take him to the rear. I have found this to extend to dead bodies. The solicitude of men in action to get to the rear on a fair excuse is remarkable. The first aid dressing, which every man carries in the field, is done up in a waterproof cover, and is sewn up inside the man's tunic pocket. It consists (1896) of two safety pins, gauze bandage and piece of gauze, and a compress of charpie saturated with an antiseptic (bichloride of mercury). During the late Spanish-American war these first aid dressings are said to have saved many lives. At the collecting station the man is seen by the medical officer, who arrests hemorrhages and attaches a tally on which is stated the man's name, number, rank, regiment, wound, treatment, and any special instructions required, such as, "look out for bleeding," or to place the patient in a particular position. In the Italian army tallies of different colors are used for severe or slight injuries.

I now come to the *second line of assistance*, the Bearer Companies. They are departmental, and are formed by the Royal Army Medical Corps. They are divided in action as follows: In front (that is, in rear of the fighting line), 38 of all ranks; at the collecting station, or in charge of the waggons, 12; at the dressing station, 10, including three medical officers; and in rear, 10. The front division of the bearer company does similar work to that of the regimental stretcher-bearers, i.e., they render first aid and carry wounded to the collecting station. As they arrive at this point they are placed in one of the ten ambulance waggons in waiting and

taken to the dressing station. Each waggon is in charge of a non-commissioned officer of the R.A.M.C. On arrival at the dressing station the wounded are unloaded and placed in two groups—on the right the severely wounded, and on the left the slightly wounded. The site of the dressing station is always sheltered, if possible near a good road and water, and not far from the collecting station. Here it is that the wounded receive proper treatment and primary operations are performed. At the close of the action the bearer companies search the woods and ditches for wounded. In Germany this work, at night, is done with the aid of dogs, on whose backs are first aid panniers and lamps.

From the dressing station the wounded are passed on to the *third line of assistance*, the Field Hospital. A Field Hospital is attached to each brigade, and on the line of march follows the bearer companies. These hospitals are mobile, and keep in close touch with the troops. After or during an action the site of a field hospital should be out of range of artillery fire and well sheltered. Buildings may be used, but churches should be avoided, as they are apt to be damp, cold and ill-ventilated. Their only advantage is their proximity to the graveyard. Collecting and dressing stations, field hospitals and bearer companies are under the Red Cross, but regimental bearers are not, for they carry arms and are available in case of necessity as combatants. In wars on savage peoples all ranks may have to fight, as, for instance, at Rorke's Drift. Hospitals fly the Geneva Red Cross flag by day, and show two white and one red lantern at night.

As soon as possible wounded are passed out of the Field Hospital into the *fourth line of assistance*, the Stationary Hospital. They are gradually drafted out of this into the *fifth line of assistance*, the General Hospital, a large hospital containing 400 beds, and in charge of a Colonel, R.A.M.C.

The *sixth line of assistance* is the hospital ship; and the *seventh and last* is the Royal Victoria Hospital, Netley. The principal object in view, after treatment, is to "clear the front of wounded men," who impede the movement of the army.

Having said so much on the historical and other aspects of the Imperial Medical Service, permit me to add a little about the past and future of our own militia medical arrangements. It is strictly within the facts that our medical service is in a lamentable and unorganized condition. If we were suddenly plunged into war, we would suffer as serious disasters as befell the army of the United States during the late Spanish-American war. This war has clearly demonstrated that trained army surgeons and trained ambulance men and transports cannot be improvised with success. The result of such a

course is untold suffering to the troops, great loss of life, which might have been avoided, and discredit upon a department which did its best, but had a numerically insufficient staff to work with. Let us take the lesson of this war to heart and profit by the painful and costly experience of others, rather than wait to learn the lesson for ourselves at a great price of blood and treasure.

Up to 1862 the supplies to camps of instruction left much to be desired, to put it mildly. The surroundings of the sick in many camps of instruction could hardly have been worse. I am not claiming too much for the Association of Medical Officers when I state that to that association belongs the credit of drawing professional and public attention to much-needed reforms. Let us hope that the reforms and improvements which have already been made merely precede a complete reorganization of the Medical Department, under our able Director-General.

I would respectfully submit that the following are among the changes which might properly be made to place the department on an efficient basis :

1. Abolition of the regimental system of medical officers, and the formation of a Royal Canadian Militia Medical Corps, to which all medical officers would belong ; those not serving with units or on the reserve would be attached to bearer companies. I believe more efficient work would be done by officers whose *interests were identified with departmental rather than regimental affairs*. I would not advocate a sudden and violent change in this regard, but rather would suggest that all present medical officers be permitted to continue to wear the uniform of the corps to which they are attached, but I think that all new appointees might be required to adopt medical staff uniform. Medical officers attached to battalions would command the regimental medical staff. The departmental establishment would include at least five bearer companies—one each at Halifax, Montreal, Toronto, London and Winnipeg. From the bearer companies field hospitals could be developed in time of war.

The grades in the medical service, in my humble opinion, should be : Surgeon-Colonel, Surgeon Lieutenant-Colonel, Surgeon-Major, Surgeon-Captain, and Surgeon-Lieutenant. Honorary rank should be abolished. It is as unsatisfactory as relative rank.

These bearer companies would be educational, because at the centres named a certain proportion of the strength could be recruited from medical students, who might be trained for the medical service. I might add that all Canadian militia is "royal" since 1814; therefore, the proposed title of the corps is in accordance with fact.

2. I think it is essential to good work, by the medical officers, that they shall receive instruction in their special duties, and that they shall be proficient in company and ambulance drill. The same remark applies to the non-commissioned officers and men of the regimental medical staff. For this purpose I would advocate the establishment of ambulance schools of instruction on the plan of those in operation in London and in New South Wales.

3. Medical officers, like combatant officers, should pass a qualifying examination within twelve months of their appointment, which should be provisional, and not to a higher rank than that of a lieutenant, and upon promotion to field rank.

4. Each military district should have a principal medical officer, in most cases a permanent officer, but not necessarily in all.

5. Medical officers should be given control of transport and supplies for hospital purposes, food and medicines, and authority over all connected with the hospitals in camps of instruction or during other service in the field.

6. On all field days the medical department should be exercised in their special duties, a certain proportion of men being supplied with tallies describing the nature of their supposed injuries, and ordered to fall out from their companies to be properly dealt with by the medical officers and bearers. Collecting and dressing stations should be formed in the proper manner and instruction given by the p.m.o. of contending forces.

7. A reserve of medical officers might be formed, to include those who have served, but who for various reasons have been obliged to drop out of active connection with the force, and of medical men of established reputation, who would be willing to serve in time of war. This arrangement would give them seniority, and would assure the department of the best surgical skill.

8. The Red Cross Society proposes to keep a register of nurses who would be willing to serve in time of war. Their names might be noted by the Militia Department.

9. A knowledge of the first aid to the sick and injured might be diffused by the medical officers, by means of lectures, under the auspices of the St. John Ambulance Association, among the officers and men of the force.

These are some of the suggestions I desire to make. Some will meet with approval and some with dissent. They are offered with my most earnest wish for the welfare of the soldiers and surgeons of my beloved native land.



ST. JOHN AMBULANCE ASSOCIATION

Being the Ambulance Department of the Grand Priory of the Order
of St. John of Jerusalem in England.

PRESIDENT:

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G.
(Grand Prior of the Order.)

St. John Ambulance Association in Canada.

President—The Honorable Sir George Airey Kirkpatrick, P.C., K.C.M.G.

General Secretary—Surgeon-Lieutenant-Colonel G. Sterling Ryerson, M.D., D.S.G.,
60 College Street, Toronto, Ont.

Among the objects of the St. John Ambulance Association are: The instruction of persons in rendering First Aid in case of accidents or sudden illness, and in the transport of the sick and injured; the instruction of persons in the elementary principles and practice of nursing, and also of ventilation and sanitation, especially of a sick-room; and generally the promotion of instruction and carrying out of works for the relief of suffering of the sick and injured in peace and war, independently of class, nationality, or denomination.

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